

**Claims:**

1        1. A method of operating a base station to wirelessly transmit data  
2 communications to a plurality of user terminals on a carrier, the method comprising:  
3            repeatedly and sequentially wirelessly transmitting time division multiplexed slots to  
4 the plurality of user terminals on the carrier, wherein at least one of the time division  
5 multiplied slots carries data/control intended for the plurality of user terminals, and wherein  
6 the time division multiplexed slots each include a preamble;  
7            wherein the preamble includes an indication of the data rate of the data/control  
8 carried by the time division multiplexed slots; and  
9            wherein the preamble includes a plurality of user identifiers that identify the  
10 plurality of user terminals.

1        2. The method of claim 1, wherein Walsh functions are employed as the  
2 plurality of user identifiers.

1        3. The method of claim 2, wherein:  
2            a first plurality of Walsh functions is modulated on an in-phase portion of the carrier  
3 to identify a first plurality of user terminals; and  
4            a second plurality of Walsh functions is modulated on a quadrature portion of the  
5 carrier to identify a second plurality of user terminals.

1        4. The method of claim 3, wherein the indication of the data rate comprises an  
2 (8,4,4) code that is modulated on the quadrature portion of the carrier.

1        5. The method of claim 3, wherein:

- 2           the first plurality of Walsh functions are modulated on the in-phase portion of the  
3       carrier in a time division manner; and  
4           the second plurality of Walsh functions are modulated on the quadrature portion of  
5       the carrier in a time division manner.

- 1           6.       The method of claim 3, wherein:  
2           the first plurality of Walsh functions are concurrently modulated on the in-phase  
3       portion of the carrier; and  
4           the second plurality of Walsh functions are concurrently modulated on the  
5       quadrature portion of the carrier.

- 1           7.       The method of claim 1, wherein the data/control is contained in a plurality of  
2       segments of the slot.

- 1           8.       The method of claim 7, wherein the slot further carries a pilot channel and a  
2       Medium Access Control (MAC) channel.

- 1           9.       The method of claim 1, wherein the slot further carries a pilot channel and a  
2       Medium Access Control (MAC) channel.

- 1           10.      The method of claim 9, wherein Walsh functions are employed as the  
2       plurality of user identifiers.

- 1           11.      A time division multiplexed slot embodied on a carrier that carries data  
2       intended for a plurality of user terminals, the slot comprising:

- 3           a preamble that includes an indication of a data rate of data carried by the time  
4       division multiplexed slot and that includes a plurality user identifiers that identify the  
5       plurality of user terminals;  
6           at least one data segment that carries the data;  
7           at least one pilot signal segment; and  
8           at least one Medium Access Control (MAC) segment.

1           12.     The time division multiplexed slot of claim 11, wherein Walsh functions are  
2       employed in the preamble as the plurality of user identifiers.

1           13.     The time division multiplexed slot of claim 12, wherein:  
2           a first plurality of Walsh functions is modulated on an in-phase portion of the carrier  
3       during the preamble to identify a first plurality of user terminals; and  
4           a second plurality of Walsh functions is modulated on a quadrature portion of the  
5       carrier during the preamble to identify a second plurality of user terminals.

1           14.     The time division multiplexed slot of claim 13, wherein the indication of the  
2       data rate comprises an (8,4,4) code that is modulated on the quadrature portion of the  
3       carrier.

1           15.     The time division multiplexed slot of claim 13, wherein:  
2           the first plurality of Walsh functions are modulated on the in-phase portion of the  
3       carrier during the preamble in a time division manner; and  
4           the second plurality of Walsh functions are modulated on the quadrature portion of  
5       the carrier during the preamble in a time division manner.

1           16.     The time division multiplexed slot of claim 13, wherein:  
2                 the first plurality of Walsh functions are concurrently modulated on the in-phase  
3                 portion of the carrier; and  
4                 the second plurality of Walsh functions are concurrently modulated on the  
5                 quadrature portion of the carrier.

1           17.     The time division multiplexed slot of claim 11, wherein the data is contained  
2     in a plurality of segments of the slot.

1           18.     The time division multiplexed slot of claim 17, wherein the slot further  
2     carries a pilot channel and a Medium Access Control (MAC) channel.

1           19.     The time division multiplexed slot of claim 11, wherein the slot further  
2     carries a pilot channel and a Medium Access Control (MAC) channel.

1           20.     The time division multiplexed slot of claim 19, wherein Walsh functions are  
2     employed as the plurality of user identifiers.

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